IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

Assignee's Docket No.:   7204   )
)
Group Art Unit: 2187   )
)
Serial No.:   09/020,699   )
)
Examiner: R. Elmore   )
)
Filing Date: February 9, 1998)
)
Title: Method and Apparatus for)
          Determining the Validity)
          of a Data Processing   )
          Transaction   )
)

APPEAL BRIEF
A Summary of Argument Begins on Page 4

RECEIVED

The fee for this Brief may be billed to Deposit Account

140 - 225, NCR Corporation.

1.   REAL PARTY IN INTEREST

NCR Corporation.

2.   RELATED APPEALS AND INTERFERENCES

None. However, Appellant previously filed an Appeal Brief on

August 16, 2000, appealing the rejection of claims 1, 2, and 4 -

19. Prosecution was re-opened in response to that Brief, with

the claims which are presently allowed being declared allowable at

the time of re-opening.

3.   STATUS OF CLAIMS

Claims 1, 2, and 4 - 20 are pending, rejected, and appealed.

All claims are allowed, except claims 14 - 16, which are appealed.

4. STATUS OF AMENDMENTS

An Amendment was submitted on February 7, 2000, in response to the Final Rejection. The undersigned attorney does not know whether that Amendment was entered.

5. SUMMARY OF INVENTION

The invention concerns a system for verifying identity of customers at a kiosk, such as an Automated Teller Machine. Figure 1 of the Specification shows an ATM incorporating the invention.

A customer submits an ID card to the card reader 24 in Figure 2, through slot 12 in Figure 1. (Specification, page 3, lines 5 and 10.) The card contains encrypted data, such as

1) A PIN (Personal Identification Number),

2) The customer's birth date, and

3) A telephone number. (Page 3, lines 15 -

   20.)

The system reads the data from the card, and asks the customer to enter the PIN on keypad 16 in Figure 1. (Bottom of page 3, top of page 4.) The system then asks the user to enter two digits of some other data on the card, such as the third and first digits of the telephone number. (Page 4, lines 1 - 5.)

That is, the system asks for two pieces of data:

      1) The PIN, and

      2) Something else.

When the user attempts to use the ID card at a later time, the procedure is repeated. However, the system asks for a **different** data: the PIN, and a different "something else." For example, at the later usage, the system may request the PIN and the birth date. (Page 4, first full paragraph.)

In addition, if the user makes a mistake in entering data, the invention asks for additional data from the card, and makes an estimate of whether the mistake was a guess by a thief, or an honest mistake by the card holder. (Page 4, bottom.)

6. ISSUES

Prior Art Rejections

Whether claims 14 and 16 are obvious under 35 USC § 103, based on Suzuki.

Whether claim 15 is obvious under 35 USC § 103, based on Suzuki and Chapin.

Section 112 Objections

Whether Applicant is required to label Figures 1 and 2 as "Prior Art," in view of the fact that the Specification states that the invention is contained in those two Figures, and thus such a labeling would admit that the invention is contained within

the prior art.

Whether claim 2 is subject to objection on the grounds that its subject matter is not contained within the "Detailed Description of the Invention." The Amendment identified above, in section 4, attempted to cure this alleged defect.

7. GROUPING OF CLAIMS

Two groups of claims are present:

Group 1: claims 14 and 16.

Group 2: claim 15.

The "Grouping of Claims" rule only applies to Group 1. In that Group, no claims stand or fall together.

8. ARGUMENT

Summary of Argument

Claim 14

Claim 14 was rejected as obvious, based on Suzuki. Claim 14 recites (1) reading two pieces of data from an ID card presented by a customer, (2) requesting the customer to punch in one of the pieces of data and (3) if that data is correct, requesting the customer to punch in the second data. Thus, the customer must punch in **TWO CORRECT PIECES OF DATA.**

Suzuki has two modes of operation. In one mode, Suzuki requests the customer to punch in a PIN, Personal Identification Number. If the PIN is correct, then Suzuki's process stops: the

customer is deemed identified.

In the second mode, the customer punches in the wrong PIN. In that case, Suzuki gives the customer a "second chance," by allowing the customer to enter, say, a birthday. If the birthday is correct, then the customer is deemed identified.

However, Suzuki **DOES NOT REQUIRE TWO CORRECT PIECES OF DATA**, as claim 14 recites. Suzuki requires **EITHER** (1) a correct PIN **OR** (2) another correct piece of data.

Restated, Suzuki only requires a **single "match,"** and gives the customer multiple attempts to make the match.

Thus, Suzuki does not show claim 14.

The obviousness rejection modifies Suzuki into claim 14, by modifying Suzuki into requiring **TWO CORRECT PIECES OF DATA**. That modification is contrary to MPEP § 2143.01, cited below. Further, that modification renders Suzuki incapable of performing his intended function, contrary to MPEP § 2143.01.

The modified Suzuki demands that the customer present a correct PIN. That is contrary to Suzuki's stated mode of operation, and thus contrary to Suzuki's own teachings.

Claim 16

Claim 16 depends from claim 14, and states, in simple terms, that the transaction is suspended if one piece of incorrect data is received. Suzuki is directly contrary to that. Suzuki expressly states that, if the customer enters the wrong PIN, then the customer can correct that error by entering something else which is correct.

Claim 15

Claim 15 depends from claim 14, and states that data on the card is encrypted. The PTO combines Suzuki with Chapin, who shows encrypted data on a credit card.

However, that combination renders Suzuki inoperative. Suzuki shows no apparatus for de-crypting data on a credit card, and thus Suzuki cannot utilize the encrypted data. The PTO has not shown a de-cryption system for addition to Suzuki, nor a teaching for doing so.

In addition, Chapin shows two credit cards combined into a single unit. One card is used for "business" purposes, and the other is used for "personal" purchases. (Column 3, lines 28 - 30.) Suzuki has no use for such a card.

Labeling of Figures 1 and 2 as Prior Art

If this labeling is done, then an infringer, or the PTO, can take that as an admission that the invention is contained in the prior art. Thus, the claims would be invalid.

Given that such labeling can render the claims invalid, the requirement goes "to the merits" under MPEP § 1201 and § 706.01, and makes the issue appealable.

Further, such labeling is contrary to Appellant's statements made in the Specification, and would be erroneous as a matter of fact. Appellants are not required to make erroneous statements.

Appellants, in their previous Amendment, made at least three proposals of compromise, but the PTO has made no response.

End of Summary

RESPONSE TO CLAIM REJECTIONS

Claims 14 and 16

Claims 14 and 16 were rejected as obvious, based on Suzuki.

Claim 14 recites:

> 14.   A method of validating identity of
> a party attempting to execute a transaction,
> comprising the following steps:
>
> a)   accepting an identity card from the party;
>
> b)   reading first and second data from the
> card;
>
> c)   prior to asking for any other identity
> data, presenting a message asking the party to
> enter the first data; and
>
> d)   comparing the first data entered with the
> first data read from the card and, if they
> agree, presenting a message asking the party
> to enter the second data; and
>
> e)   comparing the second data entered with the
> second data read from the card and, if they
> agree, proceeding with the transaction.

Suzuki Reference

Suzuki shows a "smart card."   (Column 1, lines 11 - 15.)   It

contains memory which stores various data identifying a person:

birthday, telephone number, etc.   (Figure 2, components 26a - 26f.)

In Suzuki, if a person forgets a PIN (Personal Identification

Number), the person is allowed to prove identity by keying-in other

numbers, such as a telephone number and birthday.   (Column 4, lines

7

28 - 47.)

Analysis

POINT 1: SUZUKI REQUIRES A SINGLE "MATCH" BETWEEN DATA SUPPLIED BY THE CUSTOMER AND REFERENCE DATA, BUT GIVES THE CUSTOMER MULTIPLE CHANCES TO MAKE THE MATCH.

CLAIM 14 RECITES ACCEPTING TWO PIECES OF DATA FROM THE CUSTOMER, AND BOTH MUST MATCH DATA READ FROM THE CUSTOMER'S CARD.

THUS, SUZUKI DOES NOT SHOW CLAIM 14.

Suzuki first asks for a PIN. If his customer punches in a correct PIN, that ends his validation procedure. (See decision block 52 in his Figure 3. See column 3, lines 16 - 24.) No additional numbers are requested, or accepted.

Thus, **BOTH** the "first data" and the "second data" of claim 14(b) are not present in Suzuki. That is, in Suzuki, a customer may attempt to enter a PIN. That may be "first data." However, if that data is correct, no "second data" is ever used, as in claim 14.

It may be true that, in some cases, Suzuki does use additional data. But that data does not qualify as the "second data" of claim 14. For example, if Suzuki's customer forgets the PIN, Suzuki allows the customer to enter a birthday, etc. But the birthday is entered **instead** of the PIN. Suzuki never performs the **dual** comparison of claim 14(d) and (e).

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Stating this another way, claim 14 requires **two** pieces of data, entered by the customer, to agree with **two** pieces of data read from the customer's card. Only if they **both** agree is the customer allowed to proceed, under 14(d) and (e).

Suzuki is **directly contrary to this**. In Suzuki, if a customer enters the correct PIN, that customer may proceed. In this case, Suzuki receives only **one piece of data**. That is contrary to claim 14, which requires **two** pieces of data, entered by the customer, to agree with **two** pieces of data read from the customer's card.

In Suzuki, if another customer enters the **wrong** PIN, Suzuki may allow that customer to enter a birthday. If the birthday is correct, the customer may proceed. However, in this case, only **one** piece of data (the birthday) is correct. The PIN was **NOT** correct, and that lack of correctness was the reason for accepting the birthday.

Restated, Suzuki only requires **one piece of data** to be correct. That is contrary to claim 14.

Therefore, Suzuki teaches two modes of operation. Both are contrary to claim 14.

     ONE MODE: Suzuki receives **correct** PIN.

          -- This is contrary to claim 14: the "second data" is absent. Suzuki approves the customer based on the PIN, and asks for no more data.

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SECOND MODE: Suzuki receives **incorrect** PIN.
Then Suzuki receives correct birthday.

> -- This is also contrary to claim
> 14: there is no agreement between
> **both** (1) the first and second data
> entered by the customer, and (2) the
> first and second reference data.
> That is, the PIN in Suzuki does not
> agree with the correct PIN, so both
> sets of data do not agree, as claim
> 14 recites.

Therefore, Suzuki teaches directly contrary to claim 14, and elements of claim 14 are not found in Suzuki. MPEP § 2143.03 states:

> To establish <u>prima facie</u> obviousness . . . **all
> the claim limitations** must be taught or
> suggested by the prior art.

As just explained, Suzuki does not show a requirement that **two** pieces of data, entered by the customer, agree with **two** pieces of data read from the customer's card. Instead, Suzuki requires only one "match," and gives the customer multiple opportunities to make the match.

POINT 2: CLAIM 14(d) STATES THAT THE SECOND DATA
IS ONLY REQUESTED IF THE FIRST DATA MATCHES.

AS EXPLAINED ABOVE, THAT IS DIRECTLY CONTRARY
TO SUZUKI. SUZUKI ONLY REQUESTS THE SECOND DATA IF
THE FIRST DATA FAILS TO MATCH.

THUS, SUZUKI IS DIRECTLY CONTRARY TO CLAIM 14.

Claim 14(c) and (d) indicate that, if the first data supplied is correct, then second data is requested, and the second data must also be correct.

Suzuki is directly opposite: he only asks for the second data if the PIN is **INCORRECT**. If his customer punches in a correct PIN, that ends his validation procedure. (See decision block 52 in his Figure 3. See column 3, lines 16 - 24.)

To repeat: claim 14 states that, if the first data agrees with the stored data, nevertheless, second data is requested for comparison. Suzuki does not show that. In Suzuki, if the PIN is correct, the customer is validated, and no further validation is undertaken.

POINT 3: PTO's ENUMERATION OF ITEMS SUPPOSEDLY FOUND
IN SUZUKI DOES NOT CORRESPOND TO CLAIM 14.

THUS, EVEN IF ENUMERATION IS CORRECT,
IT IS IRRELEVANT.

The Final Office Action, page 4, purports to enumerate items (a) - (e) of claim 14, and to assert that these items are found in Suzuki. However, those items do not correspond to claim 14. For

example, item (d) in the Office Action fails to correspond to (d)
in claim 14.

Therefore, even if Suzuki shows the items in the Office
Action, that is irrelevant.

The Final Office Action, bottom of page 4, asserts that

> . . . Suzuki does not teach using the second
> data as an additional means of identification,
> but as a means of the card owner still having
> access when the PIN has been forgotten or
> incorrectly types.

> However, . . . [it is obvious] to use this
> second data as a further identification means
> for security purposes to insure against misuse
> of an ID card without incurring significant
> requirements for either additional hardware or
> software.

However, several problems exist in this statement. One is that the
first paragraph is incorrect. Suzuki **DOES** use the second data as
a means of identification: if the second data punched in by the
customer is correct, then the customer is granted access to
Suzuki's system. That is identification.

Rationale does not Lead to Claim 14, Part I

The second paragraph in the passage cited immediately above
is highly redundant. The content of that paragraph can be reduced
to this:

It is obvious to use the second data to insure
against misuse of an ID card because that can
be done easily.

The problem is that, whether you read this condensed version or the

longer version in the previous section, this paragraph merely

describes Suzuki.

That is, Suzuki himself utilizes the "second data" for the

purpose stated by the PTO, namely, insuring against misuse of an

ID. Suzuki utilizes the "second data" to identify the customer.

Therefore, the rationale given by the PTO does not lead to

claim 14, but merely described Suzuki. Suzuki utilizes the "second

data" for the purposes stated in the PTO's rationale. That does

not lead to a modification of Suzuki, nor to claim 14.

Rationale does not Lead to Claim 14, Part II

A second problem is that whether something can be implemented

easily, or "without incurring significant requirements for either

additional hardware or software," is not a basis for modifying a

reference.

Therefore, even if Suzuki can be easily modified, that is not

a basis for making the modification.

In this connection, Appellants point out that the PTO's

rationale is of the type which is **specifically prohibited by the**

MPEP. MPEP § 2143.01 states:

FACT THAT REFERENCES CAN BE COMBINED OR
MODIFIED IS NOT SUFFICIENT TO ESTABLISH PRIMA
FACIE OBVIOUSNESS

The mere fact that references can be combined
or modified does not render the resultant
combination obvious unless the prior art also
suggests the desirability of the combination.

. . .

FACT THAT THE CLAIMED INVENTION IS WITHIN THE
CAPABILITIES OF ONE OF ORDINARY SKILL IN THE
ART IS NOT SUFFICIENT BY ITSELF TO ESTABLISH
PRIMA FACIE OBVIOUSNESS

A statement that modifications of the prior
art to meet the claimed invention would have
been "well within the ordinary skill of the
art at the time the claimed invention was
made" because the references relied upon teach
that all aspects of the claimed invention were
individually known in the art is not
sufficient to establish a prima facie case of
obviousness without some objective reason to
combine the teachings of the references.

Rationale for Rejection is Self-Defeating

A third problem is that the rationale states that the

modification of Suzuki provides security "without incurring

significant requirements for either additional hardware or

software." (Final Office Action, top of page 5.)

However, this rationale is self-defeating. In effect, it

states that, if you modify Suzuki, you obtain something which is

useful, but at no significant expense.

However, that is one of the secondary considerations for

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patentability. Providing a better product at no additional expense is evidence that the product is patentable, not that the product is obvious in the patent sense.

Rationale is Factually Incorrect, or not Supported

A fourth problem is that the rationale is factually incorrect. The rationale asserts that any additional software required to modify Suzuki would not be "significant." In response, Applicant points to, Introduction to Compiler Construction, by Thomas W. Parsons, page 2, copy attached, which states:

> It has been estimated that the average programmer can produce 10 lines of debugged code in a working day.
>
> (The significant word is "debugged." We can all write huge amounts of code in a much shorter time, but the additional time required for testing and debugging reduces the overall figure drastically.)

If the rejection wishes to assert that no "significant" software or hardware is required, then, in view of this text passage, Appellant submits that the rejection must explain

(1) How much code is required to accomplish the missing steps, and

(2) Why the length of time, as computed by this text passage, required to generate the code is not "significant."

Appellants made this assertion in their previous Brief, but no explanation has been received from the PTO. Appellants request an explanation by way of Examiner's Answer.

Stated more simply, the rationale is a naked conclusion. Evidence is required, and none has been given.

Rationale not Found in Prior Art

A fifth problem is that the rationale is not found in the prior art. A teaching **within the prior art** must be shown which suggests combining the references. See MPEP § 2143.01.

Rationale Modifies Suzuki

A sixth problem is that the addition of the elements to Suzuki acts as a modification of Suzuki. MPEP § 2143.01, last paragraph, states:

> If the proposed modification or combination of the prior art would **change the principle of operation** of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious.

As explained above, Suzuki requires a **single valid piece of data**, and gives the customer multiple chances to supply it. The PTO's modification of Suzuki changes that into requiring **two valid pieces of data**.

Therefore, Appellants submit that claim 14 is not obvious, in view of Suzuki.

PTO Renders Suzuki Incapable of Performing His Intended Function

A seventh problem is that the modification of Suzuki renders Suzuki incapable of performing his intended function. Suzuki expressly states that, if a customer forgets the PIN, the customer can still gain access by providing another code.

The PTO modifies that. The modified Suzuki now requires a valid PIN, contrary to Suzuki's own teachings.

MPEP § 2143.01 states:

> THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE
>
> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

Claim 16

Claim 16 recites:

> 16. Method according to claim 14 and, wherein lack of agreement between an entered data and a data read from the card suspends the transaction.

The PTO asserts that Suzuki shows this, but that is incorrect. If

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Suzuki's customer enters a false PIN, Suzuki does not suspend the transaction, but allows the customer to correct the error, by entering another code.

The subject matter of claim 16 has not been shown in the prior art, as required by the MPEP.

Conclusion as to Claims 14 and 16

Therefore, Appellants submit that claim 14 cannot be obvious in view of Suzuki, and that claim 16 is not found in Suzuki.

Claim 15

Claim 15 was rejected as obvious, based on Suzuki and Chapin. Claim 15 recites:

> 15.   Method according to claim 14, in which the first and second data are stored in the card in encrypted form.

However, no valid teaching for combining the references has been given.

Suzuki Implicitly Teaches Against Combination

Suzuki shows a "smart card," and states that such cards are "very difficult to forge or misuse, and their secrecy-maintenance capabilities are excellent." (Column 1, lines 12 - 14.) Therefore, Suzuki implicitly states that no need for encryption

exists.   Suzuki teaches against the combination of references.

Suzuki's Teaching is Contrary to PTO's Rationale

The PTO's rationale for combining Chapin with Suzuki is that "additional security" is provided. That is contrary to Suzuki's statement given in the previous paragraph.

That is, Suzuki states that security is "excellent." Given that, the PTO must provide evidence showing that Chapin's encryption provides added security. But even that is not sufficient.

The PTO must show why Suzuki would want that. If Suzuki's security is "excellent," as he states, then the PTO must show why Suzuki would want more.

PTO's Teaching is Vague

The PTO has not stated whether it is combining (1) Chapin's concept of encrypting data, or (2) Chapin's encrypted magnetic cards with Suzuki. Further, the PTO has not given a teaching for selecting (1) or (2) over the other.

A clear teaching is required.

Chapin and Suzuki are Contradictory

Chapin shows two credit cards, but attached together. (See Figures 3 and 6.) That has no relevance to Suzuki.

Clearly, given that, the PTO is using hindsight, and selects the **encryption feature** of Chapin, based on Applicant's claims. That is, since Chapin's dual-card system has no relevance to Suzuki, the only other possible source of a suggestion is Appellants' claims.

Appellants claims cannot be used.

Even if References are Combined, Claim 15 is not Attained

Claim 15 states that the "first and second data" are stored in the card in encrypted form. Those "data" are the data which are read, and which the customer must punch in, when requested.

No such data exists in Chapin. That is, Chapin's customer does not punch in data which was previously read from the card.

Therefore, even if you combine Chapin's type of data with Suzuki, you do not obtain claim 15.

Combination Renders Suzuki Inoperative

If you modify Suzuki's card, so that the stored data is encrypted, then Suzuki becomes inoperative, contrary to the MPEP sections discussed above. Now some agency in Suzuki must de-crypt the data.

But the PTO has shown no such agency, nor has it added such an agency to Suzuki.

This is further evidence that Appellants' claims are being

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used as the basis for combining the references.   The PTO's combination renders Suzuki inoperative.   Plainly, the motivation is to modify Suzuki into something which shows claim 15, using Appellants' claims, since no person skilled-in-the-art would modify Suzuki into something inoperative.

To cure this defect, the PTO must provide a teaching as to why Suzuki should add de-cryption equipment.   That has not been done.

112 - Rejections

The PTO demands that Appellants label their Figures 1 and 2 as "prior art."   However, if that is done, then Appellants would thereby admit that the invention is contained in the prior art. Further, such labeling would be incorrect.

The Specification describes the apparatus of Figures 1 and 2 as operating differently than prior art devices.   Therefore, Applicants simply **CANNOT** label those Figures as "prior art."   That would allow the PTO to reject Applicants' claims, on the grounds that they admitted Figures 1 and 2 to be prior art.   And that would be incorrect, and inconsistent with the Specification's statements.

Explaining this in greater detail, the objection appears to mistake **appearance** for **substance**.   The **housing** shown in Figure 1 may appear within the prior art.   However, labeling Figure 1 as "prior art" acts as an admission that the **machinery** within that housing is **ALSO** within the prior art.   That is not so: the

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Specification states that the **machinery** includes the present invention. Applicants cannot admit a falsehood.

The Specification, page 2, line 18, states:

> Fig. 1 is a perspective view of an ATM according to the present invention;

Thus, the Specification expressly states that Figure 1 is not "prior art."

Explaining this further, Applicant points out that the Specification, page 3, states that the ATM 10 of Figure 1 contains a "data processing unit 22" shown in Figure 2. That "data processing unit 22" performs many of the computation steps recited in the claims. (Page 3, line 5 et seq.)

Restated, the operations of the "processing unit 22," as described in the third paragraph of the Specification, and other places, are not found in the prior art.

Restated again, the "processing unit 22" in Figure 2 is **Applicants'** processing unit. It is not a prior-art processing unit.

Therefore, there is no doubt whatsoever that Figure 2 is not shown within the prior art. The "processing unit 22" is not a prior-art element. A generic processing element may be, but the processing unit 22, as described in the Specification, is not found in the prior art.

As to Figure 1, if Applicant designates Figure 1 as "Prior Art," then Applicant enables infringers to raise the argument that the "data processing unit 22" and its functions are also prior art. The reason is that the Specification states that the ATM 10 of Figure 1 contains the data processing unit.

Applicant is not required to admit, directly or indirectly, that the invention is contained within the prior art.

Appellants made the proposed resolutions, given below, in their previous Amendment. No response has been received from the PTO.

EXCERPT FROM PREVIOUS AMENDMENT:

Proposed Resolution

Applicant offers to resolve this apparent problem by the enclosed PROPOSED DRAWING AMENDMENT, which adds a graphical block to Figure 1, within the ATM 10, which is labeled "invention." Support for that block is found in the Specification, as described in the preceding section.

Second Proposed Resolution

MPEP § 608.02(g) states that

> Figures showing the prior art are usually unnecessary and should be cancelled.
> . . .
> However, where they are needed to understand

applicant's invention, they may be retained if
designated by a legend such as "Prior Art."

Thus, Applicants offer to cancel Figure 1, and include it in
Figure 2, with the apparatus of Figure 2 shown as being contained
within the ATM of former Figure 1.   Some amendments to the
Specification would be required by this approach.

Third Proposed Resolution

Applicants propose to label Figures 1 and 2 as "Prior Art,"
but with the understanding that such labelling only refers to the
graphical imagery of the Figures themselves, taken in isolation,
and does not imply that the claimed invention is found in the prior
art.

END OF EXCERPT

re: Appeal of This Issue, vs. Petition

Applicants must appeal this "prior-art-labeling" objection.
The reason is that this matter goes "to the merits" of Applicants'
compliance with the statutes and regulations.   "To the merits" is
the test for appealability under MPEP $ 1201 and § 706.01.

That is, as explained above, if Applicants admit that Figures
1 and 2 are "prior art," then Applicants thereby admit that the
operation of processor 22 in Figure 2 is in the prior art.   As
explained above, the Specification states

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(1)   that the "processing unit 22" in Figure

2 operates as the claims recite and

(2)   that "processing unit 22" is contained

within the ATM of Figure 1.

In addition, at least three legal questions arise, which the

Board of Appeals must answer.   Those questions are:

--   Can a Figure be interpreted differently

from the Specification's description of it ?

--   Are Applicants required to label a Figure

with   a   label   contradicting   their   own

description of that Figure ?

--   If Applicants label a Figure as "prior

art," and their Specification describes that

Figure   as   operating   according   to   their

invention, have they thereby admitted that

their invention is found in the prior art ?

CONCLUSION

Applicant requests that the Board reverse the rejections and objections, and pass all claims to issue.

Respectfully submitted,

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ATTACHMENT: Parsons, Proposed Drawing Amendment

9. APPENDIX - Appealed Claims

14. A method of validating identity of a party attempting to execute a transaction, comprising the following steps:

a)   accepting an identity card from the party;

b)   reading first and second data from the card;

c)   prior to asking for any other identity data, presenting a message asking the party to enter the first data; and

d)   comparing the first data entered with the first data read from the card and, if they agree, presenting a message asking the party to enter the second data; and

e)   comparing the second data entered with the second data read from the card and, if they agree, proceeding with the transaction.

15. Method according to claim 14, in which the first and second data are stored in the card in encrypted form.

16. Method according to claim 14 and, wherein lack of agreement between an entered data and a data read from the card suspends the transaction.

INTRODUCTION TO
COMPILER CONSTRUCTION

Thomas W. Parsons

Hofstra University

COMPUTER SCIENCE PRESS

LR   3,5

instead of the bit string shown above. This representation of a program is known as *assembly language*. The assembler looked up the mnemonic LR in a table and found that the corresponding op-code was 00011000; it then found the binary representations of 3 and 5 and pieced the machine-language instruction together that is, it *assembled* the instruction from its component parts. In our example the op-code concatenated with 0011 and 0101 gave the machine-language instruction shown above. A single line of assembly-language code normally corresponds to a single machine-language instruction.

Languages like Pascal, C, PL/I, FORTRAN, and COBOL are known, generally, as *high-level languages*; they have the property that a single statement, such as

    x := y + z;

corresponds to more than one machine-language instruction. In particular, if x, y, and z are integers, and if the program is to be run on the IBM 370 or one of its congeners, then this statement will probably be translated into the sequence
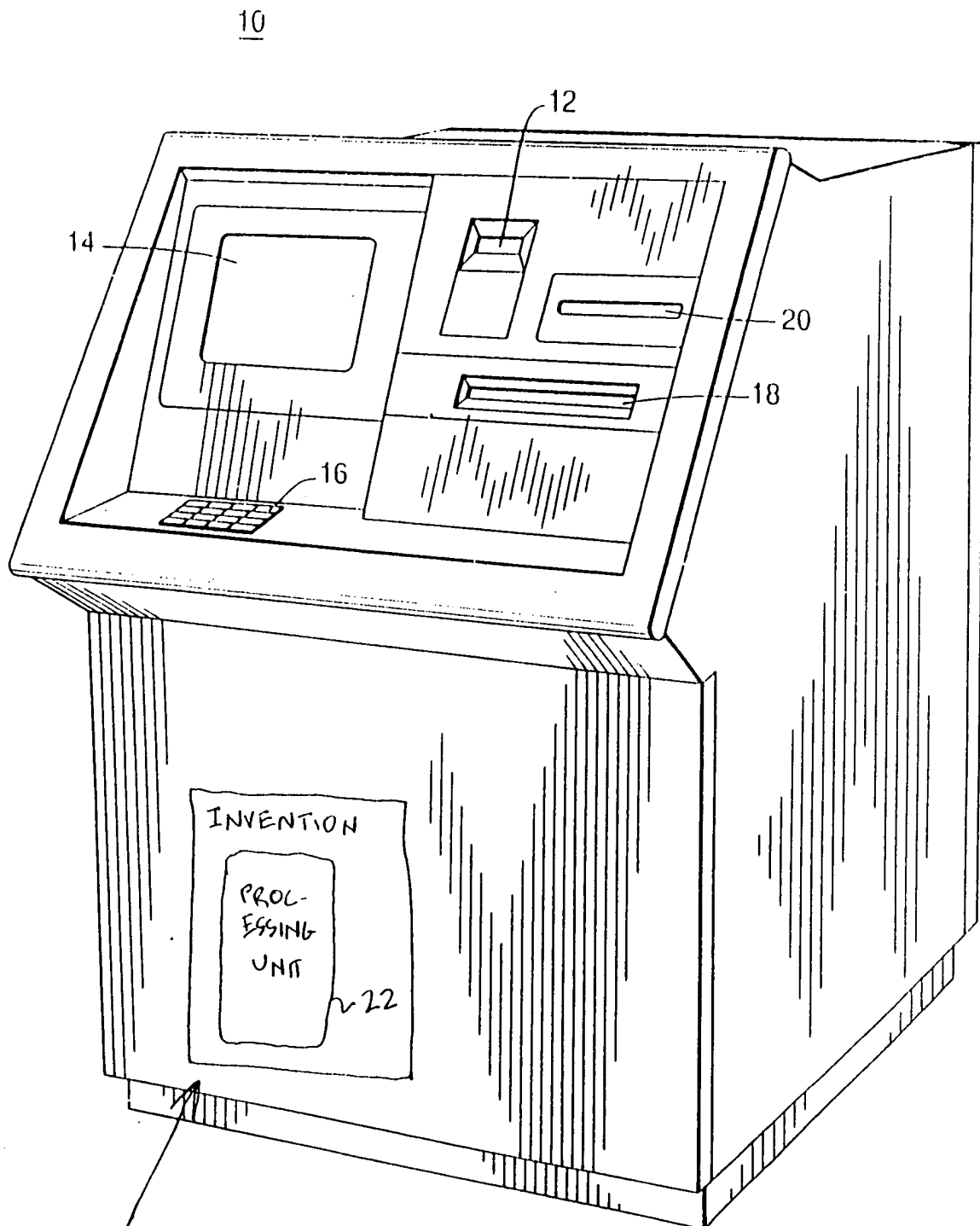
    L   3,Y   Load the working register with Y
    A   3,Z   Add Z
    ST   3,X   Store the result in X

or into the machine-language equivalent of these instructions.

The main virtues of high-level languages are productivity and the ability to manage complexity. It has been estimated that the average programmer can produce 10 lines of debugged code in a working day. (The significant word is "debugged": we can all write huge amounts of code in a much shorter time, but the additional time required for testing and debugging reduces the overall figure drastically.) It has also been found that this figure is essentially independent of the programming language used. Since a typical high-level language statement may correspond to perhaps 10 assembly-language instructions, it follows that we can be roughly 10 times as productive if we program in Pascal or C instead of assembly language.

Any program that has to deal with the real world will be complex. The real world teems with special cases, exceptions, and the general untidiness that distinguishes it from worlds like that of mathematics. Much of the evolution of programming languages has consisted of finding new ways of dealing with complexity that minimize its impact on the programmer. Such concepts as information hiding, encapsulation, and abstract data types are ways of coping with complexity. Many of these techniques can be implemented in assembly language, if you have the patience and the ingenuity, but they can be built into high-level languages in such a way that the implementation of the techniques is itself hidden from the user.

FIG. 1

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INVENTION

PROC-
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UNIT

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**PROPOSED
DRAWING
AMENDMENT**